STATE OF UTAH
NATURAL RESOURCES
Oil, Gas & Mining

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October 14, 1987

Mr. J. E. Katlic
Executive Vice President
Blackhawk Coal Company
P. O. Box 700
Lancaster, Ohio 43130

Dear Mr. Katlic:

Re: Mid-Permit Term Review, Willow Creek Mine (Eastern Coal Reserves), ACT/007/002, Carbon County, Utah

The Division has reviewed the updated Mining and Reclamation Plan (MRP) received on June 3, 1987 from Blackhawk Coal Company (BCC) relative to the ongoing Mid Permit Term Review (MPTR) and the proposed addition of new areas to the approved permit area.

A meeting was held at the Willow Creek site on September 16, 1987 between representatives of the Division and BCC.

Attached is the Initial Completeness Review (ICR) delineating deficiencies in the submitted MRP. For the most part deficiencies identified relate to both the MPTR and new permit area review. However, a few comments specific only to the new permit area are identified at the end of the document.

In order to maintain progress on the MPTR, the Division requests a response to this review by December 31, 1987. Please note that the verification of ponds required by UMC 817.49(h) was the subject of a federal Ten Day Notice and could become a federal violation if not rectified prior to December 31, 1987. Please format all submittals as new or replacement pages or maps which can be inserted directly into the MRP.

If you have questions, don't hesitate to contact me or Susan Linner.

Sincerely,

L. P. Braxton

L. P. Braxton
Administrator
Mineral Resource Development
and Reclamation Program

SCL:jvb
cc: P. Rutledge
R. Hagen (cover letter only)
J. Belviso
B Team
0028R-35

Mid-Permit Term Review
Blackhawk Coal Company
Willow Creek Area (Eastern Coal Reserves)
ACT/007/002
Carbon County, Utah

October 13, 1987

UMC 771.23 Permit Applications - General Requirements for Format and Contents - KW

(b) The Division recognizes that parts of this permit were excerpted from earlier documents; however, much of the data found in Exhibit 7 is not site specific enough to be used in this permit. The hydrologic calculations should be developed using data that is site specific. The references to other areas that are no longer part of this permit and are not needed for justification of values should be deleted.

Much of the information in Exhibit 7 and 10 is illegible, it appears to be photocopies of photocopies. These should be cleared up so that all of the information is legible.

UMC 771.23 Permit Applications - General Requirements for Format and Contents - JRH

The plan does not meet the minimum requirements under part (e)(2) of this section which requires a map showing the location and the timing of underground coal mining activities (this also includes surface disturbed areas) in the mine plan area.

UMC 771.27 Verification of Application - SCL

The updated Mining and Reclamation Plan must be verified by an official of Blackhawk Coal Company.

UMC 782.13 Identification of Interests - SCL

(a)(1) Phone number(s) for the permit applicant must be included.
(a)(2)-(a)(4) These sections have not been addressed.
(a)(6) A phone number for the resident agent must be included.
(b)(3) This section has not been addressed.
(d)-(e)-(f)-(g) These sections have not been addressed.

UMC 782.15 Right of Entry and Operation Information - SCL

(a) The operator shall provide a legal description, specific to 1/4 1/4 section, of each lease or fee parcel. Ownership and right of entry information for fee land must be addressed.

UMC 782.16 Relationship to Areas Designated Unsuitable for Mining - SCL

The operator must address whether any of the prohibitions of UMC 761.11 apply.

A valid existing right for Price River Coal Company to conduct mining activities within 100 feet of Willow Creek Cemetery was granted by OSM on October 26, 1983, and thus is part of the approved permit.

UMC 782.18 Personal Injury and Property Damage Insurance Information - JRH

This section is considered to be complete. Certificate of liability insurance is found as Exhibit 2 in the operator's MRP.

UMC 782.19 Identification of Other Licenses and Permits - JRH, SCL

Table 2-1, Active Licenses and Permits, indicates that the NPDES permit expired on 6-30-87. The operator needs to provide a copy of the current NPDES Permit and include it in the appendicies of the MRP.

Copies of approval or concurrence letters from the State Historic Preservation Officer (SHPO) and the Bureaus of Air Quality and Water Pollution Control should be included in the appropriate appendicies.

UMC 783.12 General Environmental Resources Information - JRH

ok

The operator has indicated that due to current market conditions, detailed information as to the timing and sequence of mining operations is not presented in the plan. The operator has committed to submit detailed information at such time when mining operations are considered feasible.

Such a submittal shall be considered a significant departure from mining and reclamation operations presented in this permit. Such a revision shall be filed with the Division in accordance with the requirements of Part UMC 787 of these regulations.

In light of the operator's uncertain outcome of the operations due to market conditions, this section could be considered adequate with the provisions that no underground mining operations are to commence without meeting other specific requirements of Subchapters G and K of the regulations as they would apply to such additions to the plan.

OK UMC 783.14 Geology Description - DD

The operator shall discuss the potential for aquifers on and adjacent to the mine plan area and characterize their location, and extent.

The operator shall discuss which coal seams will be mined.

OK UMC 783.15 Ground Water Information - KW

The mine permit has a general description of the ground water hydrology and water quality data for the region. Since the present operational plan does not include any mining activity, this data base will suffice for the activities outlined in this permit (i.e. no mining or surface disturbances associated with mining). However, before any mining activities or surface disturbances associated with mining can commence within the existing or proposed new permit areas, two years of groundwater baseline data will need to be collected.

This baseline data will have to be site specific. The aquifers that are present at the site will have to be defined in location, quantity, areal extent, thickness, lithology, uses, and quality. This includes the alluvial aquifer, the regional aquifer (Starpoint SS), and the perched aquifer.

Since the perched aquifer has been impacted by historic mining a pieziometric map will not be necessary for this aquifer in the Willow Creek area.

OK UMC 783.16 Surface Water Information - KW

The operator needs to identify the location of the Price City water treatment plant on Map 27. The location of this facility is important since the water quality standards change at this location.

UMC 783.18 Climatological Information - LK

This section is complete and adequate.

UMC 783.19 Vegetation Information - LK

The operator needs to provide the following before this section can be considered complete and adequate:

1. The reference area is not marked in the field as described on page 9-6 and the location as shown on Map 30 is in error.

2. Page 9-4 describes a vegetation map of a scale of 1"=400' which shows reference area locations, sample locations, etc. This map needs to be submitted. 1" = 1000' ok

3. Table 9-2 does not provide statistical data (means, standard deviations, etc.) for determining sample adequacy. This information needs to be provided.

4. Table 9-1 needs to include the name, address and position of person(s) or organization(s) responsible for vegetation data collection as required by UMC 771.23(c).

Resolution of the above deficiencies will make the plan complete and adequate for the Willow Creek disturbed area only. Due to problems in similarity (or lack thereof) of the proposed reference areas (for other than the Willow Creek disturbed area), their locations, ownership, and/or missing data, they cannot be approved or accepted at this time. Therefore, before mining related disturbance occurs in any other area (i.e. Barn Canyon, Dry Canyon, etc.) a complete vegetation study will need to be conducted in accordance with the rules and guidelines in effect at that time.

UMC 783.20 Fish and Wildlife Resources Information - LK

This section is complete and adequate.

UMC 783.21 Soil Resources Information - JSL

This section is not complete. The Soil Conservation Service (SCS) soil survey, Exhibit 11, Vol. 5, does not clearly correspond to Blackhawk Coal Company's permit area. The soil association maps and Soil Interpretation Records are illegible. These maps must: 1) delineate the permit boundary; 2) clearly identify all soil series; 3) be at a minimum scale of 1:6000; and 4) identify all soil sample locations. Map 29 must also be updated to include sample site number 4.

The MRP should include a Soils Interpretation Record for each soil series. Data found in table 8-1, page 8-4 must be correlated with each soil series. Each and every soil phase within the disturbance boundary must have one sample representative.

UMC 783.22 Land Use Information - LK

This section is complete and adequate.

discuss change in land use

OK UMC 783.24 Maps: General Requirements - DD

The operator should supply mining maps for the proposed permit and adjacent areas in sufficient detail to show coal reserve isopachs from which coal reserve calculations can be performed and which show topographic features. These maps should be at a scale of one inch equals 500 feet.

The operator should submit detailed mine plan maps for each seam to be mined within the proposed permit area. These maps should be at a scale of one inch equals 500 feet.

Mine maps should depict sequence of mining and type of mining to be conducted over the life of the mine for the permit area. Mining maps shall be submitted to show areas to be affected over the estimated life of the underground coal mining activity at a scale of one inch equals 500 feet.

UMC 783.24-25 Maps: General Requirements; Cross-Sections, Maps, and Plans - JRH

No suitable map indicating the location of all buildings in and within 1000 feet of the proposed permit area with identification of use of the buildings could be found in the plan.

No suitable map could be found within the plan to indicate those features as required in part (e) of this section.

Maps provided in the plan attempting to delineate boundaries as required in parts (a), (b), and (c) are not sufficiently clear and specific in order to determine this section complete.

Of primary concern is the determination of the disturbed area boundaries. The disturbed area boundaries shall incorporate all areas in which surface disturbance used in connection with or to facilitate underground coal mining activities occurred, and shall comply with the performance standards of Subchapter K of these regulations except as noted in UMC 700.11. More specifically, the disturbed area shall include those areas which were disturbed or will be disturbed as a result of mining and reclamation activities. Cut slopes, embankments and outslopes associated with the surface pads, roads and other facilities shall be included in the disturbed area. The requirement to restore the approximate original contour of the land is applicable to these disturbed areas.

OK UMC 783.25 Cross-Sections, Maps and Plans - KW

The operator must commit to providing maps showing the location and extent of the subsurface water in this area prior to any mining activity.

UMC 783.25 Cross-sections, Maps and Plans - DD

The operator shall include on the geologic map the location of drill holes, test borings, core samplings, coal outcrop lines, geologic structures, attitude of coal seams and formations and the location and depth of gas and oil wells. The geologic map should be of sufficient scale to clearly depict all the above mentioned features.

The operator shall submit a map showing the location and extent of active, inactive or abandoned underground mine workings for the mine plan area, including mine openings to the surface.

Overburden isopach maps should be submitted at a scale of 1 inch equals 1000 feet and separated from the coal reserves isopach maps.

The operator shall submit a map that depicts slope measurements to adequately represent the existing land surface configuration of the area affected by surface operations and facilities. Each measurement shall consist of an angle of inclination along the prevailing slope extending 100 feet above and below the disturbed area. Slope measurements shall depict natural variations in slope and reflect geomorphic differences of the disturbed area.

All maps, plans and cross-sections included in the MRP shall be prepared by, or under the direction of and certified by a qualified registered professional engineer or professional geologist.

UMC 784.11 Operation Plan: General Requirements - JSL

As outlined on page 3-4, Vol. 1, the north and south end of the Willow Creek facility is composed primarily of coal waste. This material must be disposed of according to UMC 817.71-.74 and UMC 817.103. This disposal plan must be incorporated within the MRP.

The acid- or toxic- forming potential of the coal waste material must be analyzed. The following lists the parameters for analysis: boron, selenium, percent pyritic sulfur, percent organic sulfur, percent calcium carbonate, pH, acid-base potential, electrical conductivity, calcium, sodium, magnesium, and sodium adsorption ratio. The number and depth of samples is dependent upon the extent of the coal waste material involved. Hence, the extent of coal waste and disposal location must be addressed. Cross-sections, mass balance, and contour and location maps must be submitted.

If the material is found to be an a acid- or toxic- forming material the MRP must also address UMC 817.48 and UMC 817.103. Specific treatments for any acid- or toxic- forming materials shall be reviewed by the Division upon submittal of the sampling analysis and the specific treatment plan.

The statement referring to Area 1 and Area 2 on page 3-16 is confusing. Which map does this correspond to? Map 9 does not identify any such areas.

UMC 784.11 Operation Plan: General Requirements - KW

This section has not been adequately addressed. Exhibit 7 discusses drainage and sediment control in such general terms that it appears to apply to any generic mine site. There appears to be no correlation between what is written in Exhibit 7 and Chapter 3 of the MRP and what exists on site. The operation plan should address each structure specifically describing construction, use, maintenance, proposed modifications and removal of each diversion and sediment pond.

UMC 784.11 Operation Plan: General Requirements - JRH

The operator has requested that ponds and drainage structures remain in use with no modification. These ponds and diversions were installed in 1980 and later dates and are under the requirements of this regulatory program. In accordance with the requirements of the regulations, these structures must meet the performance standards of subchapter K of the regulations. It is evident that these facilities do not meet those performance standards. The operator shall be required to submit designs for and plans for the modifications of those facilities such that the performance standards of the regulations are met.

UMC 784.12 Operation Plan: Existing Structures - JRH

The operator has not properly identified existing structures to be used in conjunction with the proposed mining and reclamation operations. Such structures include roads, pads, embankments, diversions, buildings, and utilities which are incorporated into the plan. The operator shall provide the specific requirements of this section of the regulations.

UMC 784.13 Reclamation Plan: General Requirements - JRH

The MRP has essentially no plans for the backfilling, compaction and grading, stabilization and covering of spoils and waste materials. Maps and drawings showing the final configuration and surface contours have not been provided. Those requirements are under under UMC 817. 101-.106.

UMC 784.13 Reclamation Plan: General Requirements - JSL

Plans for soil stabilization, compacting and grading must be submitted. Include disturbed and final topography contour maps, mass balance table, and disturbed and final topography

cross-sections in accordance with UMC 817.101-.106. Slope data should include minimum slopes, maximum slopes, mean and percentage of each slope. All final grading shall be constructed parallel to the contour. Methods such as scarification of overburden and compacted areas should be discussed in the interest of ensuring good overburden-soil contact, and proper water permeability and atmospheric exchange. The depth of scarification must be determined by the depth of available soil and the total length of effective root growth. At a minimum, scarification must be at an eight inch depth.

There is some confusion between the MRP and what the operator described in the field visit. According to Mr. Parrish there will be no topsoil borrow material . In-situ materials will be used as a potential substitute growth medium. Therefore, the operator must update the MRP to exclude all language addressing the use of a topsoil borrow area and include plans and discussion for the in-situ materials. The specific language to be changed is located in the MRP on Map 8 and pages 3-22, 8-8, and 8-10.

All proposed topsoil substitute materials must comply with UMC 817.22(e). As the MRP outlined on page 9-27, section 9.3, Vol. 1, the development of a successful revegetation plan entails a detailed scientific analysis. Hence, the requirement for demonstration plots is essential to verify that the substitute topsoil material will be a viable medium for reclamation success. Prior to any future surface disturbance the operator must demonstrate that the proposed substitute soils will be suitable for reclamation success pursuant to UMC 817.22(g)(2) and UMC 817.22(e). Demonstration sites shall be implemented as part of the required contemporaneous reclamation. These demonstration sites would include such variables as: broadcast versus deep fertilizer placement and pitting versus deep ripping for water harvesting and soil stability analysis.

All potential growth medium material must be analyzed for the following to adequately determine the proper fertilizer rates and other potential variables to be analyzed in the demonstration sites: color, texture, pH, organic matter, saturation percentage, electrical conductivity, calcium carbonate percentage, available phosphorus, sodium adsorption ratio, percent organic carbon, rock percentage, and potassium. All potential soil materials must be sampled at the 0-6 inch and 6-18 inch depth. There should be a minimum of three soil sample locations.

Soil spadework must be carried out when the soil is dry. Working on wet soil results in excessively compacted soil. Detail the specific equipment and operation plan that will be used for topsoil redistribution and seed bed preparation.

UMC 784.13 Reclamation Plan: General Requirements - KW

This section has not been addressed. The MRP should include detailed reclamation plans and a timetable for reclamation of all currently disturbed areas. This includes the removal of the culvert on Willow Creek. Included in the timetable should be discussion on the sediment pond removal and the monitoring of inflow to the sediment pond to meet the criteria of UMC 817.46 (u).

UMC 784.13 Reclamation Plan: General Requirements - LK

(b)(5) The revegetation plan, as provided in the MRP, needs to be revised to bring it in line with current reclamation technology. A specific reclamation plan, including species and rate to be seeded and planted is needed. In revising the plan, please note the following:

1. Schedule - Page 9-40 identifies fall planting of shrub seedlings. This should be revised to plant shrubs in early spring (immediately after snowmelt). While the Division agrees that shrubs could be established from fall plantings under certain conditions, the Division is not aware of any successful fall planting on big-game winter ranges in Utah's coal region.

   The operator has not provided plan for contemporaneous revegetation of disturbed areas that are not currently being used for mining activities. Since there are no plans for active operation for the near future, all disturbed areas need to be revegetated with an approved plan during the next available season. It is recommended that the proposed final revegetation plan be utilized or, the area be divided into demonstration plots utilizing different methods and/or seed mixes, fertilizers, etc. on each plot.

2. Species Selection - Current seed lists are not specific as to what species will be used or seeding/planting rates. Several of the species on the lists are introduced species for which the operator has not provided sufficient documentation that they meet the criteria of UMC 817.112. Many of the species are not available in commercial quantities and it is unlikely that they will be available for many years, if ever. Attached is a recommended seed mix for the Willow Creek disturbed area for your consideration, which contains native species that are normally available in large quantities. Species were selected based on their utility in meeting the postmining land use, soil stabilization characteristics and surrounding (and invading) vegetation.

3. Mulching - Please clarify whether mulch will be used for final revegetation or only with the cover crop (when a cover crop is used). Also, for hay or straw, 1 ton per acre is the minimum acceptable rate of application.

4. Irrigation and Pest/Disease Control - The MRP does not indicate whether irrigation or pest and disease control measures will be utilized (see comment under UMC 817.97). Please clarify. It is highly recommended that any shrub transplants be protected from predation by wildlife.

5. Success Standards and Monitoring - The monitoring plan (methods and frequency) for determining reclamation success is adequate with the exception that the statistical level for success is not identified (i.e. 90% of the standard with 90% confidence level to detect a 10% change in the mean). Also, while the Division agrees that reference area shrub stocking is excessive, before the Division can approve a variance to the high stocking rate, the operator must propose an alternate standard, providing adequate technical justification for establishing a lower density.

UMC 784.14 Reclamation Plan: Protection of the Hydrologic Balance - KW

This section needs to address the measures that will be taken to prevent degradation to Willow Creek. The outslope of the pad area does not report to any sediment control device and is actively eroding in several sections. A detailed description including cross-sections and maps are needed to detail what will be done with the problem areas.

UMC 784.15 Reclamation Plan: Postmining Land Use - LK

This section is complete and adequate.

UMC 784.16 Reclamation Plan: Ponds, Impoundments, Banks, Dams and Embankments - KW

The three sediment ponds (019, 018, 017) located on site do not meet the design criteria established in UMC 817.46. The operator needs to submit plans for a sediment pond or a series of sediment ponds that meet this criteria. The Division's concerns include the inslopes that are too steep on the sediment ponds, the lack of discharge structures, and the location and stability of the sediment ponds.

UMC 784.18 Relocation or Use of Public Roads - JRH

The operator has not addressed this section in chapter 3 as indicated in the cross-reference. The operator needs to describe, with appropriate maps and cross sections, the measures to be used to ensure the interests of the public and landowners affected are protected while conducting proposed underground mining activities within 100 feet of the right-of-way of any public road.

UMC 784.19 Underground Development Waste - JRH

The operator has not addressed underground development waste, spoil and other waste which is presently on the site, may be generated through mining, or materials encountered during regrading and recontouring of the site during reclamation. Little on no information is found in Chapter 3 regarding handling of waste material as referred in the cross-reference.

UMC 784.20 Subsidence Control Plan - DD

none

The operator shall supply a subsidence map depicting the post mining land use, the location of subsidence monitoring stations, the areas of expected subsidence and the areas where subsidence has occured in the past.

UMC 784.21 Fish and Wildlife Plan - LK

See comments under UMC 817.97.

UMC 784.22 Diversions - KW

The MRP needs to address this section. There are many inconsistencies in the present MRP concerning watershed boundaries and diversion ditches. The present watershed boundaries are shown on Map 27. These boundaries show only the undisturbed areas and not the disturbed boundaries; furthermore some of these boundaries are incorrectly shown (i.e. no watershed is delineated for culvert C-2). The incorrect boundaries should be eliminated from this map and a separate map clearly delineating all watershed boundaries as they currently exist and as they are proposed after final reclamation should be submitted. These maps should be on a 1:200 scale. The disturbed area should be shown with 20 foot contours or surveyed cross-sections can be substituted for the 20 contours. In either event the combination of maps and/or cross-sections should clearly delineate watershed slopes, channel slopes and all hydrologic structures as well as any watershed boundaries that are too small to be shown by the 20 ft contour intervals.

The present maps and calculations do not address the Jap canyon diversion. This diversion is of concern because of the erosion which is taking place at the lower end near the confluence with Willow Creek.

These maps should also show the location of any reaches which will be riprapped and any energy dissipators or other hydraulic structures.

UMC 784.23 Operation Plan: Maps and Plans - JRH

The operator needs to more definitively describe those facilities, and their design, operation, maintenance and reclamation, which are part of the Mining and Reclamation Plan. Most of the general information and base line information can be found in the plan but specific and clear plans regarding operation, maintenance, contemporaneous reclamation, and final reclamation are not sufficient.

Initially, base maps of suitable scale and careful delineation of the surface facilities should be provided. Plans for the interim period in which the operator proposes not to commence actual mining activities should be developed and included within the plan. Details as to the maintenance and monitoring requirements for the site should be detailed throughout the life of the operations with respect to the existing plan and through reclamation of the site. Contemporaneous reclamation of much of the site is in order due to the indefinite period in which the site may be left idle. Final reclamation plans must address the requirements of Subchapter K, the performance standards of the regulations.

Designs and standards for reclamation must be formulated and included in the plan in order to determine the reclaimability and the acceptability of the site upon final reclamation. Reclamation plans including designs, maps and plans for backfilling and grading, recontouring, covering waste materials, hydrologic design for channels and diversions, and other requirements in addition to revegetation standards must be addressed in the reclamation plan.

UMC 784.24 Transportation Facilities - JRH
UMC 784.25 Return of Coal Processing Waste To Abandoned Underground Workings - JRH

The requirements of these section should be addressed in accordance with those comments made under UMC 783.12.

TECHNICAL DEFICIENCIES

UMC 817.43 Hydrologic Balance: Diversions and Conveyance of Overland Flow, Shallow Ground Water Flow, and Ephemeral Streams - KW

The narratives and tables describing the undisturbed watersheds as well as the methodology used for calculating peak flows was in such a disorder that reviewing these calculations was not possible. The operator should clearly delineate the area that each diversion is designed for, the assumptions made for each area (e.g. T_c, watershed slope, CN, area, C, percent cover, hydrologic soils group) and the documentation of these assumptions. Presently there is a description of the soils groups found in the region, but no site specific data. To document the hydrologic soils group of each watershed a soils map is needed, otherwise the most conservative Hydrologic Soils Group (D) will be used.

To determine if the diversion ditches are capable of conveying the design event the cross-sections of each diversion should show depth of flow, depth of channel, bottom width, and side slopes.

In sections where riprap is proposed the D_{50} of the riprap material, depth of riprap, depth of filter blanket if needed, and a narrative describing the installation of the riprap is needed.

Furthermore, unnecessary information that is not used in these calculations should be removed from the document to make it a clear and concise document that is easily reviewable.

UMC 817.46 Hydrologic Balance: Sedimentation Ponds - KW

See UMC 784.16 of this document for specific problems with the sediment ponds.

The calculations used to derive 0.035 ac-ft per acre of sediment yield must be shown, along with all assumptions. This should include documentation that the sediment removed by the sediment control measures is equal to the reduction in sediment storage volume. The operator must also commit to implementing and maintaining those measures that were used to reduce the sediment yield in the calculations.

UMC 817.49 Hydrologic Balance: Permanent and Temporary Impoundments - KW

(h) The existing sediment ponds (017, 018, and 019) need to be certified to meet the criteria of this section.

UMC 817.52 Hydrologic Balance: Surface and Ground Water Monitoring - KW

The present plan has only one groundwater monitoring station (BM-9). This station is several miles from any disturbed area and is inadequate for determining the effects of mining on the ground water system. The Division feels that with the current operational plan (no activity) a groundwater monitoring program is not necessary. However, before any mining activities (not including reclamation activities) begin the operator must contact the Division to determine an appropriate ground water monitoring program. This contact should be made at least two years prior to any mining activity. This would allow for the implementation of a monitoring program that would collect new baseline data for one (1) year prior to any disturbance. The second year of baseline data could be collected during the start-up and early operations.

The surface water monitoring station located upstream from the mine site on Willow Creek is also insufficient for determining impacts caused by the permit area. This station should be moved to directly above the permit boundary. This change should be reflected on Map 27.

The operator has proposed two monitoring stations on the Price River. No surface disturbances have occured in this region and no surface or underground disturbances are proposed in the term of the permit; therefore, the Division feels that the monitoring of this reach of river is unnecessary. If any disturbances are proposed for this area the operator will need to resume monitoring of these stations. The Division should be contacted for help in determining the parameters that should be sampled.

In the reclamation plan there should be a narrative describing the monitoring of surface water flowing into the sediment ponds during the reclamation period. This narrative should describe the proposed monitoring points, parameters, duration of monitoring, sample frequency, and sampling devices.

The summary of the water quality data is incomplete and incorrect. In many cases high values have not been included, thus lowering the averages. Furthermore, the data needs to be brought up to date. The last data shown was collected in 1983. After the data is made current and the summaries corrected, the Division will make a determination on the parameters that need to be sampled.

If the operator wants to upgrade the current water quality monitoring program to allow for a fast startup when market conditions allow, they should contact the Division for help in establishing an approved monitoring program, which could be implemented at the present time.

The MRP should be corrected to reflect all of the above changes.

UMC 817.97 Protection of Fish, Wildlife and Related Environmental Values - LK

The operator needs to provide the following before this section can be considered complete and adequate:

1. The operator must commit to report to the Division the existence of any threatened or endangered species (plant or animal) or any Golden Eagle of which he becomes aware within the mine plan area, which has not been previously reported.

2. The operator has not addressed the restoration or enhancement of habitats of unusually high value and riparian areas or other wetland areas.

3. The operator has not provided plans to fence, cover, or use other appropriate methods to exclude wildlife from hazardous concentrations of toxic-forming materials or other hazardous areas.

4. The operator must commit to not use persistent pesticides unless approved by the Division.

5. The operator needs to provide a commitment to prevent, control and suppress range, forest and coal fires not approved by the Division.

6. The operator must commit to replace water for wildlife at seeps and springs that are impacted due to subsidence or other mine related activities. The Division considers a seep or spring to be impacted if there is a 50% reduction in flow due to mining activities or subsidence.

UMC 817.100 Contemporaneous Reclamation - LK

See comments under UMC 784.13(b)(5).

UMC 817.111-.117 Revegetation - LK

Until a complete plan is submitted (See comments under UMC 784.13(b)(5)), compliance under these regulations cannot be determined.

UMC 817.133 Postmining Land Use - LK

This section is complete and adequate.

New Permit Area

UMC 782.15 Right of Entry and Operation Information - SCL

The area proposed to be added to the permit area should be specifically identified by ownership (surface and underground), lease numbers, and a legal description specific to 1/4 1/4 section.

UMC 782.20 Identification of Location of Public Office for Filing of Application - SCL

A copy of the complete application must be filed in the county courthouse prior to the first date of publication on the new permitting action.

UMC 782.21 Newspaper Advertisement and Proof of Publication - SCL

Proof of publication shall be made a part of the application no later than four weeks after the last date of publication.

UMC 783.16 Surface Water Information - KW

The MRP states that no on-site spring and seep survey has been conducted. Seeps and springs are important wildlife habitat and critical for understanding the groundwater system in the area. A thorough site investigation needs to be made next spring when the aquifers are recharged and all ephemeral seeps and springs should be flowing. To delineate the seasonal variability on-site measurements need to be made in the spring and fall at each seep and spring identified during the spring (season) survey. The survey should note the location of each seep or spring along with any relevant geologic information including the formation, lithology and the cause of discharge (joints, contacts, headscarps, etc.). Along with discharge, the temperature, pH, and conductivity should be measured and any apparent uses should be noted.

A plan for the survey, including all these requirements, must be submitted and approved.

Recommended Seed Mix
Willow Creek Disturbed Area
Blackhawk Coal Company
ACT/007/002

Species	Rate[1]	Rate[2]
GRASSES:		
Agropyron dasystachyum Thickspike wheatgrass	2.0	4.0
Agropyron smithii Western wheatgrass	2.0	4.0
Agropyron spicatum Bluebunch wheatgrass	2.0	4.0
Elymus cinereus Great Basin wildrye	2.0	4.0
Oryzopsis hymenoides Indian ricegrass	2.0	4.0
Sitanion hystrix Bottlebrush squirreltail	1.0	1.5
FORBS:		
Artemisia ludoviciana Louisiana sagewort	0.1	0.1
Linum lewisii Blue flax	1.0	1.5
Melilotus officinalis * Yellow sweetclover	1.0	1.5
Penstemon palmeri Palmer penstemon	0.5	0.5
SHRUBS:		
Artemisia tridentata vaseyana Mountain big sagebrush	0.2	0.2
Atriplex canescens Four-wing saltbush	2.0	2.0
Chrysothamnus nauseosus albicaulis Whitestem rubber rabbitbrush	0.5	0.5
Rhus trilobata Squawbush	2.0	2.0
Rosa woodsii Woods rose	1.0	1.0
TOTAL	19.3	30.8

1 - Pounds Pure Live Seed (PLS) per acre for drill seeding.
2 - Pounds PLS per acre for broadcast or hydro- seeding.

* Melilotus officinalis is an introduced species. However, It is highly recommended for reclamation of disturbed soils due to it soil building and stabilizing characteristics, growth characteristics and compatibility with other species. The Division has determined that this species meets the criteria of UMC 817.112 without the operator needing to provide additional documentation.